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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,870	06/13/2001	William M. Appleman	82,282	4961

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Naval Surface Warfare Center  
Carderock Division Headquarters  
9500 MacArthur Boulevard  
West Bethesda, MD 20817-5700

EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 12/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/879,870

Applicant(s)

APPLEMAN ET AL.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --.

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Election/Restrictions*

Newly submitted claim 8 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 8 is for a method of processing, class 210 sub class 650, and therefore, patentably distinct from claims 1-7, which are for a filter cartridge, class 210/321.6

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 8 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Specification*

The disclosure is objected to because of the following informalities: same part number 24 used for seal ring 24 and holding disc 24, para 0015, pages 5 and 6.

Appropriate correction is required.

### *Drawings*

The corrected or substitute drawings were received on 9/25/02. These informal drawings are acceptable for examination purposes. Formal drawings will be required when the application is allowed.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The phrases "... sealed chamber within the module housing through which the contaminate-laden fluid is conducted externally of the processing elements; ....filtered fluid is laterally withdrawn ..." reads as if the fluid is circulated within the chamber that contains the processing elements, external to the processing elements, and the filtrate comes out laterally of the chamber or the elongated processing elements. How would the filtrate come out from the same side of the processing element or chamber where the contaminate-laden fluid is conducted? For examination, the examiner assumes the contaminated fluid is flowing through the processing elements, and the filtrate is coming out laterally of the processing elements into the chamber that contains the processing elements.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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1. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Funatsu (US 6,284,451).

Funatsu (451) discloses elongated filter membrane elements (hollow-fibers) with a spacer (3, Fig 1) for adjustably spacing the elements, holding elements in a bundled condition (2, Fig 1), pre-assembled means for establishing a sealed chamber within the module housing (1, Fig 1), means for taking a contaminated fluid through housing (7, Fig 1), drain for discharge of clean fluid (6, fig 1), pair of axially spaced rings (4, fig 1) in radial sealing contact with housing, epoxy resin cured seal member (col 7: 23-31), and the holding means retained within the seal ring before assembly to housing (3,4, fig 1). The pre-assembled means is adjustable before bundling in epoxy, then curing the epoxy, and then assembling in the housing (all fig 1).

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Garcera et al (US 5,916,440).

Garcera (440) teaches a membrane module having elongated process elements (1-fig 1), holding means for keeping the elements in a bundled condition ( 21-fig 1), sealed chamber (inside 1-fig 1, seal 25), spacer means (24-fig 1) maintaining the elements laterally separated, fluid is conducted through the elements (arrow 3 - fig 1). Housing has a drain means (4-fig 1) for removing cleaned fluid as in instant claim 2, and a pair of seal rings for sealing the chamber with the housing (25-fig 1; only one shown in fig).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsu (451) in view of Okumura (US 4,668,401).

Funatsu (451), while disclosing a hollow fiber bundle in a housing with a fiber spacer, tube sheets made by curing an epoxy formulation after assembly, attached to the ends of the fiber sealingly attached to the housing, with capability for cleansing contaminated water, does not disclose the hollow fiber membrane module as being useful for oily binge water. Okumura (US 4,668,401) teaches a similar hollow fiber membrane module for use in cleaning oil contaminated water (col 8: 59-68). It would be obvious to one of ordinary skill in the art at the time of invention to chose a hollow-fiber module as taught by Funatsu (451) for cleaning oily water as taught by Okumura (401) as equivalent product for equivalent application.

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2. Claims 4 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcera (440) in view of Okumura (401).

Garcera (440) teaches all the elements of claim 4-7 as given in claim 1 above, including ultrafiltration (col 1 lines 9-12), except the use of epoxy as sealant and use of the module for filtering oily bilge water. Okumura (401) teaches use of epoxy (4-fig 1) as holding means for the elongated elements (2-FIG 1) instead of the seal (24 - FIG 1 Garcera) in the holding ring (21-fig 1) of Garcera (440). Okumura also teaches the filtration of oily bilge-water (col 8 lines 59-68). It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Okumura (401) and have epoxy for the seal of Garcera (440) as alternate but improved seal, and use the Garcera (440) module for filtering oily bilge water because the Garcera module could be used for ultrafiltration (col 1 lines 9-12), and Okumura teaches use of ultrafiltration for filtering oily bilge water (col 8: lines 59-68).

### *Response to Arguments*

Applicant's arguments filed on 9/25/02 have been fully considered but they are not persuasive.

Applicant argues that the elongated processing elements are not tubular. However, the claims do not claim the elongated elements as being non-tubular, and therefore, do not overcome the rejection. It is also pointed out that the specification, as originally filed, fails to disclose a non-tubular embodiment. The examiner has included additional rejections under 35 USC 102 (b) and 103 over Garcera (440) to show how the claims read over other related art references such as elongated ceramic and metal filter modules.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan S. Menon  
Patent Examiner  
November 21, 2002

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